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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/606,861

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Lothar Goehlich

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08/24/2004

Finnegan, Henderson, Farabow,
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EXAMINER

MAYO III, WILLIAM H

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,861

Applicant(s)

GOEHLICH, LOTHAR

Examiner

William H. Mayo III

Art Unit

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 20-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/24/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in present Application No. PCT/EP01/15375, filed on December 28, 2001.

Information Disclosure Statement

2. The information disclosure statement filed November 24, 2003 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Drawings

3. The drawings are objected to because Figures 1 and 4-5 lack the proper cross-hatching which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductive and insulation materials is improper. The applicant should refer to MPEP Section 608.02 for the proper cross-hatching of materials. Correction is required.
4. Figure 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: stranding pitch (PWL), insulating braid (WBRA). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

6. The specification is also objected because throughout the specification, the applicant has phrases like "The object is solved (claim 1)..." and "The object is solved (claim 11)...", which is improper form for the specification. The applicant is reminded that the claims are enabled by the specification and not vice versa. The applicant

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should delete the above phrases and all of the similar phrases and specifically state what material the applicant is trying to specify.

7. On page 10, 3rd paragraph, line 7, the applicant should replace the term "ore" with the term "or".

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 27-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 27 recites the limitation "said polymer filaments" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to any polymer filaments in previous lines of the claims.

11. Claim 27 recites the limitation "said insulating braiding" in line 1. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to an insulation braiding in previous lines of the claims.

12. Claim 29 recites the limitation "said polymer filaments" in lines 1 & 3. There is insufficient antecedent basis for this limitation in the claim because there has not been any previous reference to any polymer filaments in previous lines of the claims.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. Claims 20-25, 28-29, and 31-39 are rejected under 35 U.S.C. 102(b) as being anticipated by Akiba (EP Pat Num 0341933). Akiba discloses a cable (Figs 1-2) that may having a screen (2) with a water sensing wire (Fig 1) for detecting leakage of electrically conductive liquids (abstract). Specifically, with respect to claim 20, Akiba discloses a water sensing wire (Fig 1) comprising an conductor (1), a water permeable insulation (4) surrounding the conductor (1, Col 2, lines 22-26), wherein the conductor (1) is formed by a plurality of wires (Fig 1). With respect to claim 21, Akiba discloses that the plurality of wires (1) is stranded to a predetermined length of pitch and direction of pitch (Col 1, lines 8-11). With respect to claim 22, Akiba discloses that the conductor (1) is configured as a Litz wire (Fig 1). With respect to claim 23, Akiba discloses that one or more polymer filaments (i.e. braided polyester fabric) are contained as reinforcement inside the water permeable insulation (4, Col 2, lines 22-26). With respect to claim 24, Akiba discloses that the polymer filaments (i.e. braided polyester fabric) are parallel to the conductor (1, Fig 1). With respect to claim 25, Akiba discloses that the water permeable insulation (4) is an insulating braiding (i.e. braided polyester, Col 2, lines 22-26). With respect to claim 28, Akiba discloses that the water permeable insulation (4) is an insulating braiding made of braided polyester (Col 2, lines 22-26).

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With respect to claim 29, Akiba discloses that the polymer filaments (4, i.e. polyester braids) and the conductor (1) inherently have an elasticity module such that up to a limit force at which an elastic deformation of the polymer filaments (4, i.e. polyester braids) changes into a plastic deformation, only an elastic deformation is applied to the conductor (1, i.e. since Akiba discloses the same structure, then it must inherent exhibit the same characteristics as the claimed structure). With respect to claim 31, Akiba discloses a water sensing wire (Fig 1) comprising an conductor (1), a water permeable insulation (4) surrounding the conductor (1, Col 2, lines 22-26), wherein the conductor inherently comprises a variable deformation cross section during application of radial stress (i.e. since Akiba discloses the same structure, then it must inherent exhibit the same characteristics as the claimed structure). With respect to claims 32-33, Akiba discloses that the conductor (1) is formed of a plurality of wires having air cavities therebetween (Fig 1). With respect to claims 34-36, Akiba discloses that the plurality of reinforcement filaments (i.e. polyester braids) is provided inside the insulation (4, Fig 1). With respect to claim 37^{34, 35, or 36}, Akiba discloses that the metal wires (1) and the reinforcement filaments (4) are arranged such that air cavities are formed therebetween the wires (1) and the filaments (4, Fig 1). With respect to claim 38, Akiba discloses a water sensing wire (Fig 1) comprising an conductor (1), a water permeable insulation (4) surrounding the conductor (1, Col 2, lines 22-26), wherein the conductor (1) is formed by a plurality of wires (Fig 1). With respect to claim 39, Akiba discloses a water sensing wire (Fig 1) for usage as a cable comprising an conductor (1), a water permeable insulation (4) surrounding the conductor (1, Col 2, lines 22-26), wherein the conductor

inherently comprises a variable deformation cross section during application of radial stress (i.e. since Akiba discloses the same structure, then it must inherent exhibit the same characteristics as the claimed structure).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 26-27, 30, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akiba (EP Pat Num 0341933) in view of Applicant's Own Admission of Prior Art (herein referred to as AOAPA). Akiba discloses a cable (Figs 1-2) that may having a screen (2) with a water sensing wire (Fig 1) for detecting leakage of electrically conductive liquids (abstract) as disclosed above with reference to claim 1. Specifically, with respect to claims 40-41, Akiba discloses a water sensing wire (Fig 1) comprising an conductor (1), a water permeable insulation (4) surrounding the conductor (1, Col 2, lines 22-26), and one or more polymer filaments (i.e. braided polyester fabric) are contained as reinforcement inside the water permeable insulation (4, Col 2, lines 22-26).

However, Akiba doesn't specifically state the conductor comprising copper (claim 26), nor the polymer filaments being Aramid® or Kelvar® (claim 27), nor the cable being a power cable (claim 30), nor the conductor being a solid conductor (claims 40-41).

AOAPA teaches typical power cables (Figs 4-6) comprise water sensing wires in order to detect water intrusion (Page 2, paragraph 2). Specifically, with respect to claim 26, AOAPA teaches that the typical power cable (PCA) comprises a central conductor (PC), wherein the conductor (PC) is typically made of copper (Page 2, line 4). With respect to claim 27, Akiba discloses that the power cable (PCA) made comprise Aramid® or Kelvar® materials which are known and commercially available insulating materials (Pages 8-9, 3rd paragraph, lines 1-3 and 1st paragraph, lines 1-2). With respect to claim 30, Akiba discloses that the cable (PCA) is a power cable (Page 2, paragraph 2). With respect to claims 40-41, Akiba discloses that the conductor (WC) is a solid conductor (Fig 4).

With respect to claims 26 and 40-41, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Akiba to comprise the conductor configuration as taught by AOAPA because AOAPA teaches that such a configuration is a typical configuration in order to detect water intrusion in the cable (Page 2, paragraph 2) and since it is known that copper is a superior conductor for transmitting signals and a solid conductor provides a cable with rigidity.

With respect to claim 27, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Akiba to comprise the insulation polymer filament configuration as taught by AOAPA because AOAPA teaches that such materials are known as insulators and commercially available and since it has been held to be within general skill of a worker in the art to select a

known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *re* Leshin, 125 USPQ 416.

With respect to claim 30, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable of Akiba to be utilized as a power cable are taught by AOAPA, because AOAPA teaches that such a configuration is a typical configuration in order to detect water intrusion in the cable (Page 2, paragraph 2) and since it has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Conclusion


17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Sumitomo Electric LTD (JP 59-171845A), Goehlich (US Pub 2003/0098175), Goehlich (US Pub 2004/0011551A1), Dennis et al (GB Pat Num 2275555), McCoy et al (Pat Num 2003/0201781A1), Wasley et al (Pat Num 4,926,129), Bovenschen et al (Pat Num 5,817,974), Wyatt (WO Pat Num 97/11391), Bath (DE 1,490,609), and Watkins, Jr et al (Pat Num 5,862,030), all of which disclose power cables having sensors.

Communication

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
September 20, 2004